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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,631	01/11/2000	HISASHI YAMADA	Q57317	5337

7590 02/20/2002

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EXAMINER
PADGETT, MARIANNE L

ART UNIT	PAPER NUMBER
1762	6

DATE MAILED: 02/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/462,631	Yamada et al
Examiner	**Group Art Unit**
M.L. Padgett	1762

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 10/22/01.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-8 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-8 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Vignaud.

Vignaud teaches making electrodes by compression molding of a dry mixture containing particles of a conducting compound such as graphite, a catalytically active compound (e.g. C catalyzed Ag), PTFE fibers, all mixed with a lubricant such as kerosene or an oil (which has a carbon component). Vignaud teaches applicability to electrodes generally, and those for electrochemical generators particularly. See the abstract; col. 3, lines 1-52, esp 49-50 and 21-23; and col. 4, lines 43-68. Note that the claimed structure of the electrode is still covered, as the particle mixture may contain silver, a metal as a catalyst, and that for product claims it is NOT necessary for the intended end use to be taught, just the claimed structure. The "comprising"

formate of the claims means that it is irrelevant that the component included for conductivity is carbon, because Ag particles may be present which suffices to read on metal powder as claimed.

3. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vignaud.

Vignaud does not provide a teaching on the possible useful ranges of amounts of lubricant useful for his pastes, although the example 1 works out to be about 24 to 25% by weight of lubricant, however the working procedure (col. 5, lines 4-6) would have been expected to not remove any lubricant on the surface. It would have been obvious for one of ordinary skill in the art, to adjust the percentages of lubricant employed, according to its viscosity and the amounts of different dry materials employed in order to produce a paste of useful consistency.

4. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vignaud as applied to claims 1-4 above, and further in view of Magara et al.

As noted, Vignaud does not particularly specify that his graphite electrode may be used as the electrode in electric discharge operations, however Magara et al (abstract; figures; col. 2, lines 16-28) show that graphite electrodes are known for use in producing wear resistant (hard) coatings and that they are known to be consumed and used in a tank of working fluid. It would have been obvious to one of ordinary skill in the art to use a graphite electrode for a process it is known to perform, ie., electric discharge treatments, where Vignaud is seen to produce such graphite electrode. As is also noted in Magara et al, kerosene (a lubricant used by Vignaud) is an ordinary mineral oil used in such discharge process (col. 6, lines 10-11 and 48-49). It would have

been obvious to one of ordinary skill in the art, that when one used an electrode to the point where it function has degenerated from consumption, to replace it in order to maintain quality of ones out put. It would have been further obvious to replace the electrode with the same type one has been using, ie., the steps of making it can be essentially said to have been repeated. What one does to the removed electrode will depended on its condition, economics and ones resources. It would have been obvious to crush used electrodes for either disposal processing or for recovery of reusable or valuable components, but applicants claims as written do not do anything but pulverize the remains. The claims don't use the powder produced for anything!

5. The patents to Saito et al are cited for further teachings of green compact electrodes in electric discharge machining (EDM), as well as mention of graphite electrodes. Gutnajer teaches making an EDM graphite electrode from powder using binder materials, inclusive of oil, but those the compression molded shapes are also sintered.

Rhodes is of interest for teaching remaking graphite electrodes that are of a machinable variety, so that they may be reused. Pinkahson teaches that crystalline Si electrodes are highly frangible material, but shows that electrode material is broken in to large macroparticles and bonded to form an electrode it is advantageous as applied to claim above.

6. Applicant's arguments filed 10/22/01 and discussed above have been fully considered but they are not persuasive.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication should be directed to M.L. Padgett at telephone number (703) 308-2336 on Mondays-Fridays from about 8 am-4:30 pm, and Fax # (703) 872-9311 (official, after final) and 305-6078 (unofficial).

MLPadgett:evh

2/14/02

2/19/02

MARIANNE PADGETT
PRIMARY EXAMINER
GROUP 1700